

# Operation and Maintenance Instructions for Type C Propeller Fans

## Installation Instructions—Other Side

**Fan Cleaning and Adjustments.** Fan should be cleaned as necessary to remove accumulated dust, dirt and other foreign matter which may collect on the blades or other fan parts. If belt drive, belt(s) should be inspected and tension adjusted (see below). Be sure to check for belt misalignment which can result in excessive wear and premature failure. If rust or corrosion is found, the affected area should be thoroughly cleaned and refinished.

**Fan Style.** Type C fans are divided in several "styles." It may be important for you to know which style you have. Check the model number on the fan. The letter preceding the size number is the style of that fan. Example: Model CBL42H is a Style L, 42" fan.

**Fan Speed Adjustment.** On belt drive models equipped with adjustable pitch motor pulley, the pitch setting made at the factory operates the fan at the maximum safe load for the motor. Do not close pulley to increase fan speed as this will overload motor and cause damage to motor or trip-out. Pulley may be opened to reduce fan speed and thus decrease CFM. If further information is required contact your nearest American Coolair Representative.

### **Belt Replacement and Tensioning (Belt drive models only).**

- (a) Belts should be inspected and tension adjusted at regular intervals. For belt replacement on Styles L, H and AL, detach entire blade assembly from frame by removing bolts which connect shaft to X-brace. Tilt or lift blade assembly just enough for belt to clear end of shaft. If fan location makes detachment difficult, it may be possible to remove old belt and replace new one by slipping belt over blade tips—one at a time. By first loosening bolts which connect shaft to X-brace, this procedure is made easier. To replace belt(s), on Style C, loosen motor bracket to release belt tension and drop old belts off motor and fan pulleys. Do not roll new belts over pulleys under tension. This practice damage belts severely.
- (b) To check belt tension, place a finger midway between fan pulley and motor pulley and push belt(s) inward about 1/2" (at approximately 5 lb. force) for proper tension. To adjust tension on Style L, H and AL models, loosen motor bracket bolts and tap bracket up or down as necessary. Retighten all motor bracket bolts to maintain proper tension. Recheck alignment of belts, motor pulley and fan pulley. On Style C, loosen motor bracket bolts and utilize tension adjustments bolts to obtain correct tension. Retighten all motor bracket bolts to maintain correct tension. **CAUTION:** Use of tension adjustments bolts makes it easy to over-tighten belts. When this occurs belts will soon fail. Do not over-tighten. Recheck alignment of belts, motor pulley and fan pulley.

**Blade Pitch Adjustment.** On Style C (both direct and belt drive), the propeller has blades on which the pitch may be adjusted. The blade pitch on standard models is factory set for specified performance with standard motor fully loaded. As any change in blade pitch will affect motor load, contact factory for instructions before making any field adjustment of blade pitch. **DO NOT ATTEMPT TO CHANGE BLADE PITCH WITHOUT FACTORY INSTRUCTIONS.**

**Lubrication.** On all belt drive d models, fan bearings are factory lubricated for extended service. On Styles L, H and AL, relubrication as a part of regular maintenance is not necessary.

On Style C, pillow blocks type bearings are used and relubrication annually or more frequently is recommended. For best results, use Shell Alvania No. 3 lubricant or equivalent. For lubrication of electric motor, see instructions supplied by motor manufacturer.

### **Repair Parts.**

- a) **Belts** — Belts are standard V-belts used on industrial machines and replacement may be obtained through local industrial supply houses. If more than one belt is used on the fan, be sure to replace with match sets. To install belts, see instruction above for belt replacement.
- b) **Blades** — If one or more blades on propeller are damaged, it is recommended that the entire blade assembly be removed and returned to the factory for necessary repair and rebalancing. On Styles L, H and AL, detach shaft from X-brace on fan frame and return the complete propeller, bearing assembly and shaft. For convenience in shipment, individual blades may be removed from the fan disc. On Style C, the propeller may be removed from the drive shaft.
- c) **Bearings** — Field replacement of bearings on Style L, H and AL models is not recommended. Return entire blade assembly to factory for repairs. Pillow block bearing on Style C may be replaced in the field.
- d) **Motors** — Motor repairs should be performed only be an authorized motor repair station. Contact the motor manufacturer or American Coolair for location of repair station.

**CAUTION:** Do not return damaged or defective parts to American Coolair without prior authorization. If repairs under warranty are claimed, see warranty terms in American Coolair catalog or contact the factory at Jacksonville, Florida. Claims for warranty repairs to electric motor should be made direct to the motor manufacturer's authorized repairs centers.

### **WARNING**



**DO NOT** INSTALL FAN WITH MOVING PARTS WITHIN 8 FEET OF FLOOR OR GRADE LEVEL WITHOUT A GUARD THAT COMPLIES WITH OSHA REGULATIONS. **DO NOT** USE UNLESS ELECTRICAL WIRING COMPLIES WITH ALL APPLICABLE CODES. **DO NOT** WIRE WITHOUT PROVIDING FOR A POWER SOURCE DISCONNECT AT THE FAN ITSELF. **DO NOT** SERVICE EXCEPT BY A QUALIFIED MAINTENANCE TECHNICIAN AND ONLY AFTER DISCONNECTING THE POWER SOURCE. FAILURE TO OBSERVE THESE PRECAUTIONS CAN RESULT IN SERIOUS INJURY OR DEATH.

### **CAUTION**



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# Installation Instructions for Type C Propeller Fans

## Operation and Maintenance Instructions—Other Side

### Dimensions of Wall or Other Opening for Mounting Fan .

The Type C fan is designed for all-angle usage and may be mounted in any position. When face mounted to a wall, the wall opening should be approximately 3" less than O.D. of the fan frame (2 inches for Model CDC18). If fan frame is to be recessed into the wall, opening should be 1/4" larger the O.D. of fan frame (See dimensions on American Coolair Form 220-15.)

**Fan Style.** Type C fans are divided into several "styles." It may be important for you to know which style you have. Check the model number on the fan. The letter preceding the size number is the style of that fan. Example: Model CBL42H is Style L, 42" fan.

**Air Exhaust or Air Supply Usage.** The Type C fan is designed primarily for use as a wall exhaust fan. All direct drive models and all Style C belt drive models may be modified for use as supply fans. They can be furnished in this configuration by the factory or modified on the job, if necessary. Belt drive models in Style L and H cannot be modified in this way. If supply fan usage of a Style L, H or AL model is required, it is recommended that the entire fan unit be mounted in a sheet metal or plywood sleeve and attached to the wall location with fan position reversed 180° from the normal wall exhaust position. See American Coolair Form 220-15 for accessories and application data for wall supply installation. Most Type C fan models may be electrically reversed for temporary or emergency use. Fan will not perform efficiently when electrically reversed.

**Pre-Installation Check of Fan.** Before installation of fan, check carefully for shipping damage which may result in blade misalignment, deformed parts or other damage. After motor has been mounted on belt drive models, Style L, H and AL, check pulley alignment and belt tension (see instructions below). All belt drive models, Style C are shipped complete with motor and drive mounted. Before connecting the power source, check motor nameplate to be sure of correct phase and voltage and motor voltage connections when motor is dual voltage. Make sure propeller turns freely without striking fan frame or any foreign object which may interfere with its operation. Note direction arrow on orifice to make sure propeller is rotating in correct direction when power is applied.

### Motor Mounting and Belt Adjustment (Belt driven models).

Belt drive models, Styles L, H and AL of the Type C fan are shipped in two packages. The fan assembly, motor bracket and belt comprise one package; the motor and pulley comprise a second package. The following information should be used in mounting the motor to the fan frame and making correct belt adjustments.

#### (a) Motor Mounting - Style L, H and AL models (see Figure 1).

- (1) Remove motor bracket from its shipping position on fan frame. Attach motor bracket to motor (see Figure 1 for correct positioning of bracket to motor).
- (2) Place fan in upright with bracket mounting holes in uprights below center of fan.
- (3) Hang motor and motor bracket from belt by placing motor pulley on belt and temporarily supporting back of motor as necessary.
- (4) Select correct bracket holes so that slots in motor bracket will allow adjustment up and down.
- (5) Fasten motor bracket to uprights with four bolts provided. Make sure motor base remains level. Do

not tighten bolts until belt tension is adjusted.

- (6) Adjust belt tension (see paragraph (c) below) by loosening bolts slightly and tapping motor bracket up or down as necessary. Check motor pulley alignment with fan pulley and adjust pulley position on motor shaft as necessary. (See American Coolair Form 220-42, packed in motor and pulley package, for proper installation instructions of pulley to motor shaft.)
  - (7) Retighten pulley set screw (if necessary) and motor bracket bolts. **IMPORTANT:** Motor bracket bolts must be secured to maintain proper belt adjustment.
- (b) **Motor Mounting - Style C Model (see Figure 2).** All belt drive models Style C are shipped complete with motor and drive mounted.
- (c) **Belt Tension Adjustment.** After 8 - 10 hours of fan operation following installation, belt tension should be rechecked and adjusted if necessary. To check belt tension, place a finger midway between fan pulley and motor pulley and push belt(s) inward about 1/2" (at approximately 5 lb. force) for proper tension. Adjustment beyond the slots in the motor bracket may be necessary. If so, remove motor bracket bolts and place in next hole location in fan uprights. This will allow additional belt adjustment as necessary. **CAUTION:** Use of tension adjustment bolts makes it easy to overtighten belts. When this occurs belts will soon fail. Do not overtighten.

**NOTE:** All local, state and federal codes should be checked to make sure all wiring, guarding and intended usage to the fan unit(s) comply with all applicable codes. The proper type and class of fan and motor should be used for air being handled such as explosive or other hazardous air mixtures.

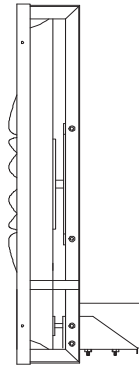


FIGURE 1.

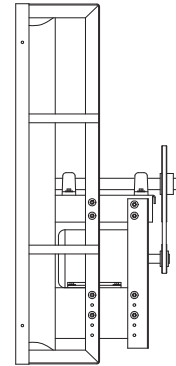


FIGURE 2.



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